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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/699,624	10/30/2000	Michael Goldstein	12808.7US11	7054
23552	7590	05/02/2005	EXAMINER	
MERCHANT & GOULD PC P.O. BOX 2903 MINNEAPOLIS, MN 55402-0903			AN, SHAWN S	
			ART UNIT	PAPER NUMBER
			2613	

DATE MAILED: 05/02/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/699,624

Applicant(s)

GOLDSTEIN ET AL.

Examiner

Shawn S. An

Art Unit

2613

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 December 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4,6,7,10-17,20 and 21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4,6,7,10-17,20 and 21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 7/2/04.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. As per Applicants' instructions as filed on 12/09/04, claims 1, 7, and 20 have been amended, and claims 5, 8-9, and 18-19 have been canceled.

Response to Remarks

2. Applicants' arguments with respect to amended claims as above have been carefully considered but are moot in view of the new ground(s) of rejection incorporating the previously cited prior art references and a newly found prior art.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-3, 6-7, 10-17, and 20-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Street (6,075,555) in view of Watanabe (5,812,187) and Kitajima (5,865,829).

Regarding claims 1, 7, 15, and 20, Street discloses a stereoscopic device comprising:

at least two apertures (Fig. 3, 41) including a light valve being operative to open at a different predetermined timing (col. 6, lines 34-50);

a multiwavelength light sensor array (32) for detecting a plurality of frames;

an illuminating unit (Fig. 1, 1); and

a controller (43) connected to the light valves, and the multiwavelength light sensor array, wherein the controller coordinates the timing and operation of the light

Art Unit: 2613

valves with the multiwavelength light sensor array, for detecting a plurality of images, so that for each of the plurality of images, only a single one of the light valves exhibits an open state (col. 6, lines 36-50).

Street does not particularly disclose a controllable multi wavelength unit illuminating unit producing at least two separated alternating beam of light as being in a different range of wavelengths, and only one of the at least two separated alternating beams of light illuminating the detected scene.

However, Watanabe teaches a conventional controllable multi wavelength illuminating unit (5) producing at least two alternating beam of light (7) as being in a different range of wavelengths, wherein only one (sequential) of the at least two alternating beams of light illuminates an object or a scene.

Watanabe's controllable multi wavelength illuminating unit does not specifically produce at least two separated alternating beam of light.

However, it is conventionally well known feature in an (stereoscopic, 3D) image capturing art for an illuminating unit to produce alternating beams of light either sequentially or separately (simultaneously). Watanabe utilizes sequential illuminating process.

Furthermore, Kitajima teaches an optical apparatus comprising a light of at least two different (separated) wavelengths maybe projected onto the intraocular part of the patient using a single illumination optical fiber, which guides light from a plurality of light sources to a predetermined part (col. 3, lines 56-65).

Therefore, it would have been obvious to a person of ordinary skill in the relevant art employing a stereoscopic device as taught by Street to incorporate the Watanabe's controllable multi wavelength illuminating unit (sequential) with Kitajima's teaching of multi wavelength illuminating unit (separated) so as to produce at least two separated alternating beam of light (R, G, B) having a different range of wavelengths, wherein only one of the at least two alternating beams of light illuminates an object or a scene, thereby Street's controller would be able to coordinate the timing and the operation of the multi wavelength illuminating unit to detect a plurality of images so that for each of the plurality of images, only a single one of the light valves exhibits an open state,

Art Unit: 2613

wherein only one of the at least two separated alternating beams of light illuminates the detected scene for generating a more accurate color video signal, thereby significantly improving an image quality.

Regarding claims 2 and 3, the Examiner takes official notice that it is obvious to include two groups of sensor or a plurality of sensors so that each group of sensor can detect light in a different wavelength such as a blue or a red or a green.

Regarding claim 6, Watanabe's teaches a multiwavelength light source (6 or 7); a light dispersing unit inherently shown (Fig. 1), but not indicated as an element; and light guiding means (3) connected between the light source and the light dispersing unit for guiding light.

Regarding claim 10, Street discloses capture means (50 or 51) connected to the multiwavelength light sensor array, for capturing data received from the multiwavelength light sensor array.

Regarding claim 11, Street discloses a storage unit (50 or 51) for storing captured data.

Regarding claim 12, Street discloses a stereoscopic display unit (abs.) for producing the images.

Regarding claims 13 and 14, Street discloses a wavelengths consisting of visible red, green, blue colors light (7). Furthermore, it is considered quite obvious to add more conventional colors such as cyan, yellow, magenta, infra-red, ultra-violet, and visible light.

Regarding claim 16, since Street discloses RGB sensor array, it is considered quite obvious to include/substitute CYMG sensor array so as to detect different wavelengths.

Regarding claim 17, Watanabe's teaches an image processing (20a-21a) connected to the CCD sensor and the illuminating unit. Further, it is well known for a stereoscopic device, such as a stereoscopic endoscope, to include an image processing for processing images for display on display monitor.

Therefore, incorporating the combination of Street and Watanabe's references, it is considered quite obvious to utilize an image processor such as Watanabe's image

Art Unit: 2613

processor, to be connected to the Street's light sensor array, and the Watanabe's illuminating unit.

Regarding claim 21, the Examiner takes official notice that it is conventionally well known for a conventional stereoscopic device to reconstruct a stereoscopic image from a sensor or a camera, which comprises a plurality of frames as outputs for display on the stereoscopic monitor.

5. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Street and Watanabe as applied to claim 1 above, and further in view of Pourcelot et al (4,605,009).

The combination of Street and Watanabe does not specifically disclose the multi wavelength illuminating unit surrounding the apertures.

However, Pourcelot et al teaches an endoscope comprising an illuminating unit (Fig. 2, 19) surrounding the optical part of the probe for an optical illumination.

Therefore, it would have been obvious to a person of ordinary skill in the relevant art employing a stereoscopic device as taught by Street to incorporate the Pourcelot et al's illuminating unit so that the multi wavelength illuminating unit surrounds the apertures in order to efficiently illuminate different range of wavelengths to a maximum level.

Conclusion

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a). A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date

Art Unit: 2613

of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

7. The prior art made of record and not relied upon is considered pertinent to Applicant's disclosure.

A) Paul et al (6,166,393), Method and apparatus for automatic inspection of moving surfaces.

8. Any inquiry concerning this communication or earlier communications from the Examiner should be directed to *Shawn S An* whose telephone number is 571-272-7324.

9. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

10. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



**SHAWN AN
PRIMARY EXAMINER**

4/28/05